



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/504,964	02/16/2000	Yasuhiko Shinjo	CU-2130-RJS	6722
26530	7590	06/08/2004	EXAMINER	
LADAS & PARRY 224 SOUTH MICHIGAN AVENUE, SUITE 1200 CHICAGO, IL 60604			CHEN, TIANJIE	
			ART UNIT	PAPER NUMBER
			2652	
			DATE MAILED: 06/08/2004	

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/504,964

Applicant(s)

SHINJO ET AL.

Examiner

Tianjie Chen

Art Unit

2652

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 February 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Final Rejection (RCE)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nagata et al (US 5,095,397) in view of AAPA (Applicant admitted Prior Art).

With regard to claim 1, Nagata et al shows a magnetic head device in Fig. 2 including: a base member 1 made of nonmagnetic material (Column 2, lines 52-53); a thin-film magnetic head 2+10+7+11 which is in contact with the base member 1 and is accommodated in a single non-magnetic layer 14 (Fig. 2, column 2, line 65), which thin-film magnetic head includes a lower yoke 2 (Column 2, line 50), a magnetoresistive element 7 (Fig. 2, Column 2, lines 59-60), a upper yoke 10 (Column 2, lines 61-62), electrode terminals 8 and 9 (Column 2, lines 60-61); an auxiliary member 16 made of non-magnetic material (Fig. 2; column 3, lines 1-2) which sandwiches the non-magnetic layer 14 between the auxiliary member 16 and the base member 1, wherein the auxiliary member 16 is bonded to the single non-magnetic layer 14 such that the electrode terminals 8 and 9 are exposed through the single non-magnetic layer 14, and a slider surface (Left side of 100 in Fig. 2) on which magnetic tape slides in a first direction along which the base member 2, the non-magnetic layer

14, the auxiliary member 16 are arranged, wherein each upper surface of the base member and the auxiliary member form a surface.

Nagata et al does not show a slider.

AAPA shows a slider in Fig. 1, wherein a magnetic head is mounted in and the slider surface is curved.

It would have been obvious at the time the invention was made to one of ordinary skill in the art to mount Nagata et al's device into AAPA's slider. The rationale is as follows: Nagata et al teaches that his device is to be used in a magnetic recording apparatus (Column 1, lines 8-9). It is well known in the art the magnetic head must be used with a slider in a recording apparatus. AAPA shows a slider, which use a magnetic head for magnetic recording apparatus. One of ordinary skill in the art would have been motivated to combine these two together for being able to be used in magnetic recording apparatus. In thus constructed device, the slider surface is curved.

4. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nagata et al in view of AAPA as applied to claim 1, further in view of Isomura et al (US 5,227,940).

With regard to claim 3, Nagata et al shows a magnetic head device as described above, but does not specify that in this device the non-magnetic layer on the slider surface has as area of 0.02 mm X 0.008 mm or less.

Isomura et al shows a magnetic head device, wherein the non-magnetic layer 2 (Fig. 1, column 14, line 32) has a thickness $b = 2 \times 10^{-6}$ mm (Column 16, line 8), and a length of the widthwise contour, which is less than $2d = 0.04$ mm (Column 16, line 4); the area of the non-magnetic layer on the slider surface is less than

0.000002 mm X 0.04 mm,

which is less than 0.02 mm X 0.08 mm.

It would have been obvious at the time the invention was made to one of ordinary skill in the art to set the area of the non-magnetic layer on the slider surface in Nagata et al's device being 0.02 mm X 0.08 mm or less. The rationale is as follows: no unexpected effect resulted from the specific numbers of 0.02 mm X 0.08 mm was disclosed in this Application. One of ordinary skill in the art would have been searching for the size of the area through experimentation and optimization. Isomura et al discloses a similar magnetic head device, wherein the size of the area of the non-magnetic layer on the slider surface is less than 0.000002 mm X 0.04 mm, which is less than 0.02 mm X 0.08 mm. One of ordinary skill in the art would have been motivated to find a usable size of the area through experimentation and optimization, which would include the numbers disclosed by Isomura et al, which is less than 0.02 mm X 0.08 mm.

Response to Arguments

2. Applicant's arguments filed 02/27/2004 have been fully considered but they are not persuasive.

Since the magnetic head is embedded in layer non-magnetic layer 14, and the electrodes are used to make electrical connection between the magnetic head and outside apparatus. Therefore, electrodes 8 and 9 are inherently exposed through the non-magnetic layer 14.

Conclusion

3. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tianjie Chen whose telephone number is (703) 305-7499. The examiner can normally be reached on 8:00-4:30, Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa Nguyen can be reached on (703) 305-9687. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2652

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chen Tianjie 06/04/04
TIANJIE CHEN
PRIMARY EXAMINER